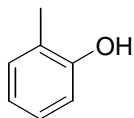


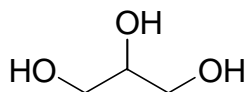
Problèmes Supplémentaires #1

1. Nommez ou dessinez correctement les molécules suivantes :

a)



b)



c)



d) L-Idose

e) meso-butane-2,3-diol

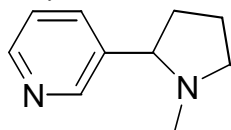
f) (2S,3E)-pent-3-én-2-ol

g) D-fructose

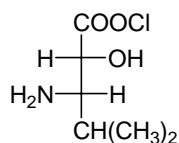
h) thiacyclopentane

3-méthyloxolane ou
3-méthyloxacyclopentane

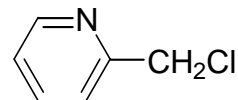
j) les 2 hétérocycles azotés de la nicotine



k)

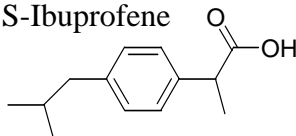


l)



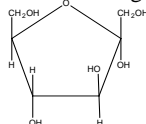
2. Représentez les molécules suivantes selon : projection de Fisher, représentation de Newman, en perspectives (3D).

a) S-Ibuprofène



Note : ne faites pas Newman

b) La forme ouverte du glucide :



c) L-(+)-Valine

d) acide (2S,3R)-(-)-2,3-dihydroxybutanoïque

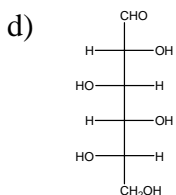
e) L-alanine (acide (L)-2-aminopropanoïque)

- Démontrez la formation de la liaison peptidique du peptide Val-Leu à partir des deux acides aminés de base. Illustrez correctement le mécanisme.
- Illustrez le mécanisme de la réaction entre le bromure de benzyle et le phénol en milieu alcalin (NaOH).
- Illustrez le mécanisme de la réaction entre le phénol et le bromure de benzoyle.
- Illustrez le mécanisme réactionnel de la déshydratation du 4-cyclopentyl-3-éthyl-octan-3-ol en présence d'acide sulfurique concentré.

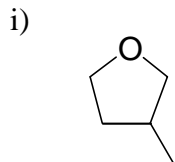
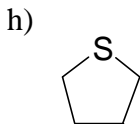
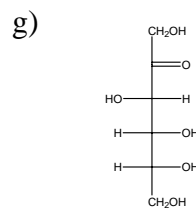
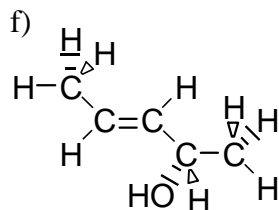
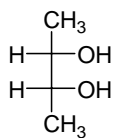
7. Représentez et nommez correctement les formes cycliques du cétose L-Psicose selon Haworth. Nous voulons les deux anomères du L-Psicofuranose. Démontrez votre cheminement en incluant le mécanisme réactionnel de la cyclisation du cétose.
8. Illustrez le mécanisme d'addition de l'éthanol au benzaldéhyde.

SOLUTIONS

1. a) o-crésol b) glycérol, glycerine, propane-1,2,3-triol c) furane



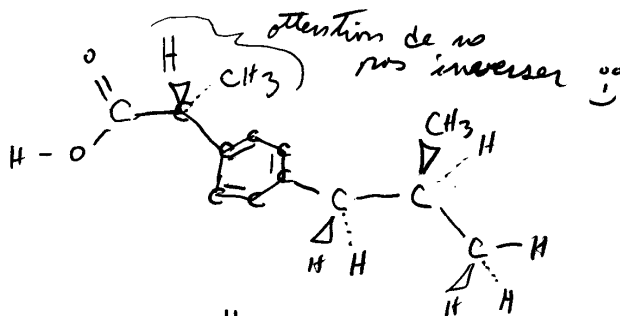
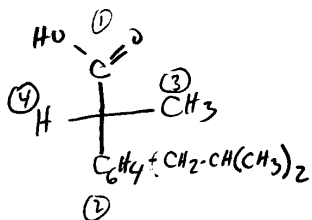
e) aucune activité optique



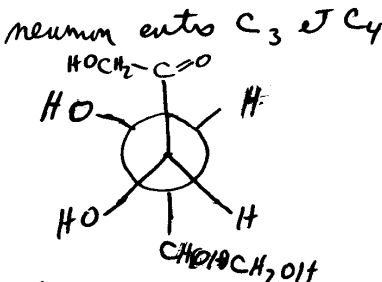
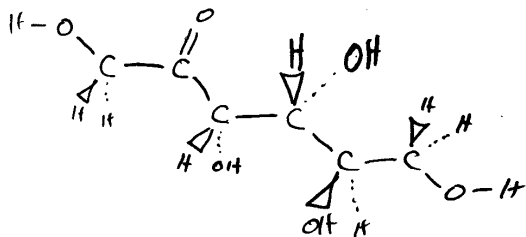
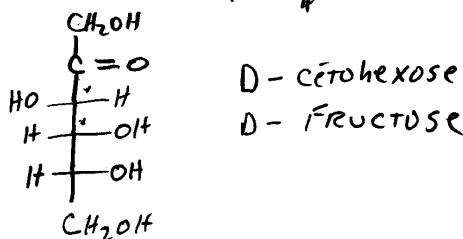
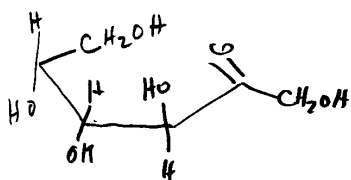
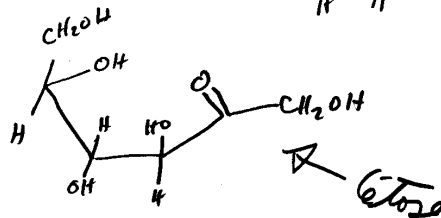
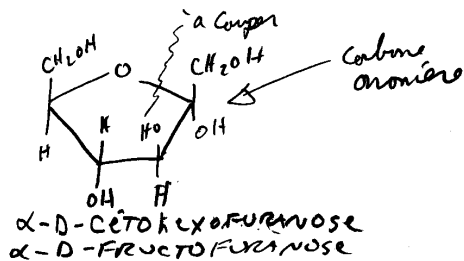
- j) pyridine (azabenzène) et azolidine (1-méthylazacyclopentane)
- k) chlorure de (2S,3R)-3-amino-2-hydroxy-4-méthylpentanoyle
- l) 2-(chlorométhyl)pyridine

#2

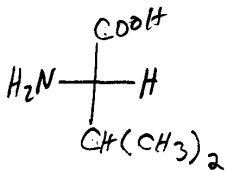
a)



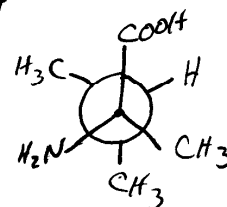
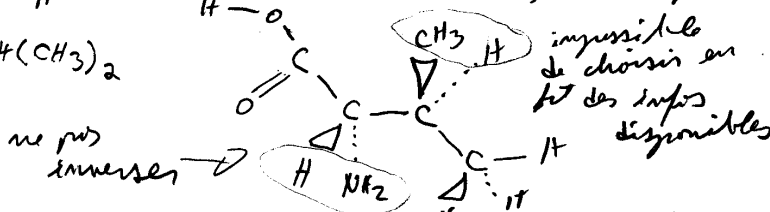
b)



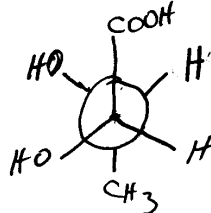
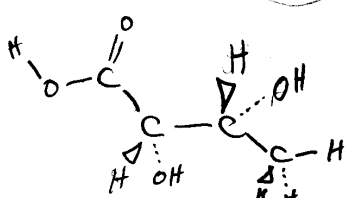
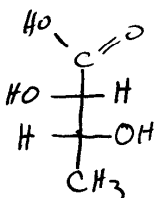
c)



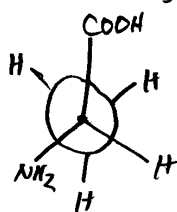
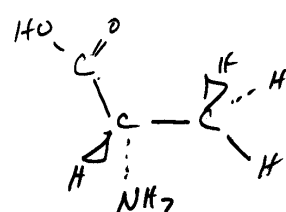
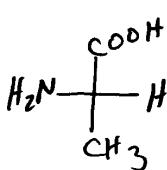
acide (S)-2-amino-3-méthylbutanoïque



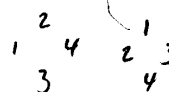
d)



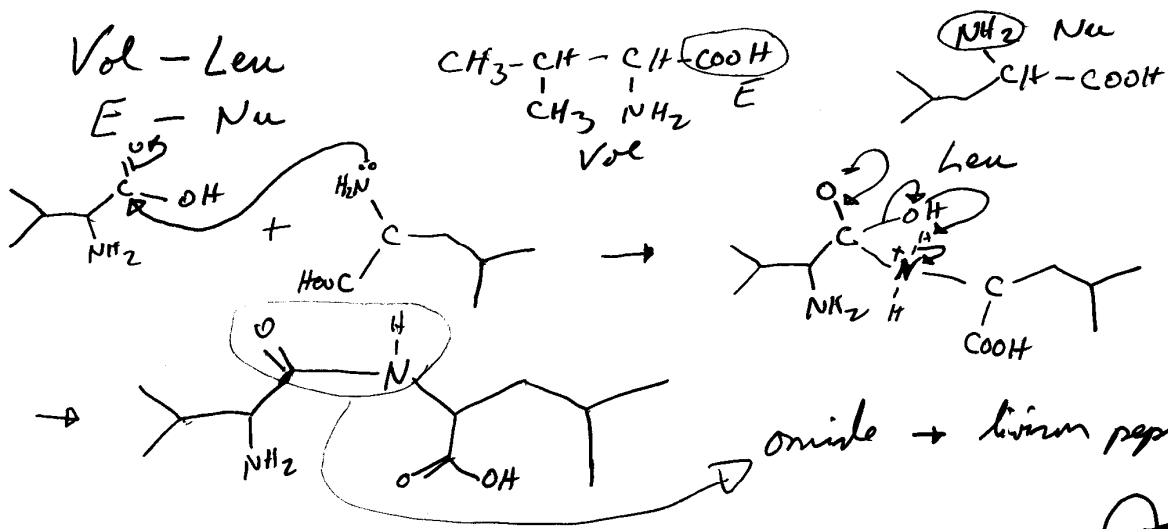
e)



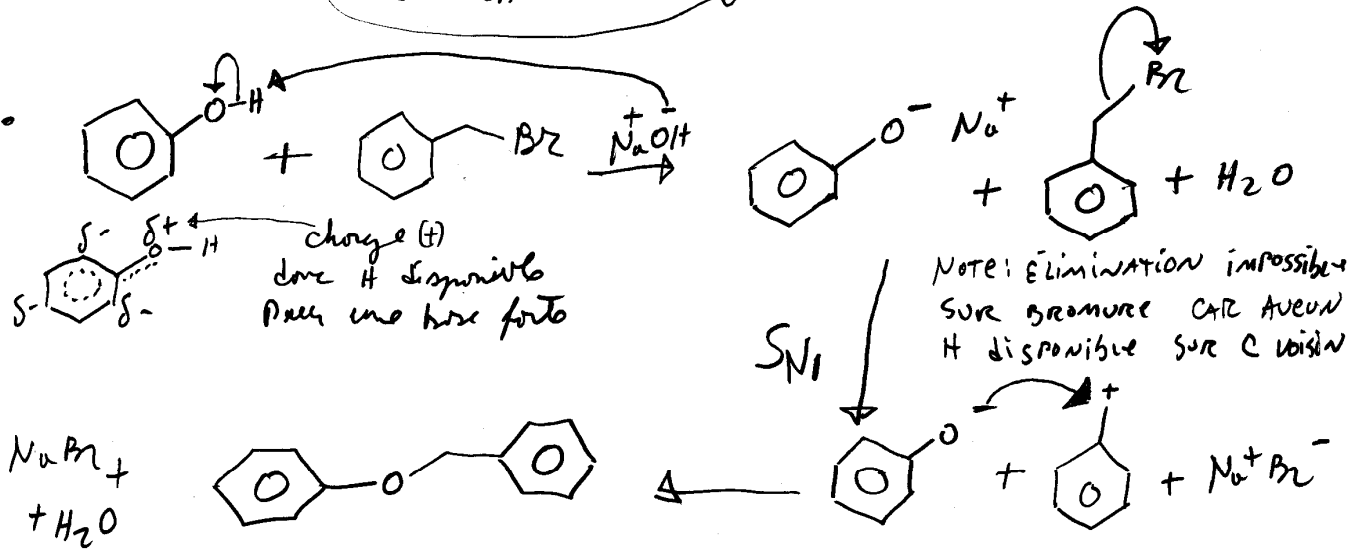
acide (S)-2-AMINOPROPANOÏQUE



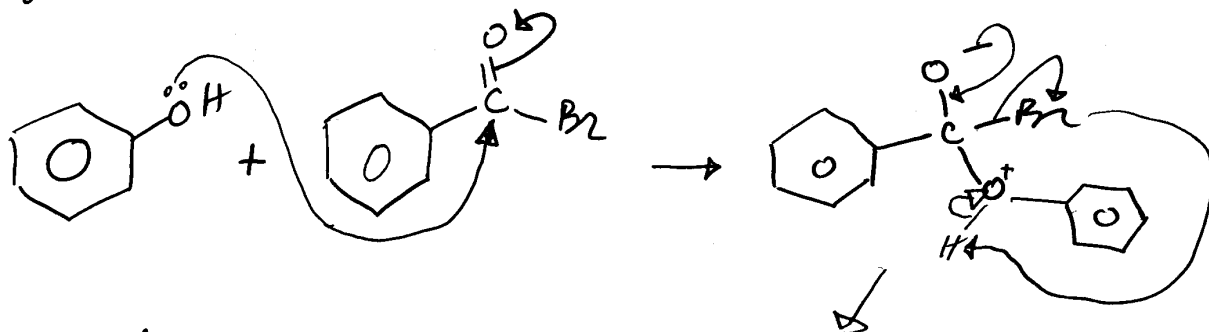
3. Val - Leu
E - Nu



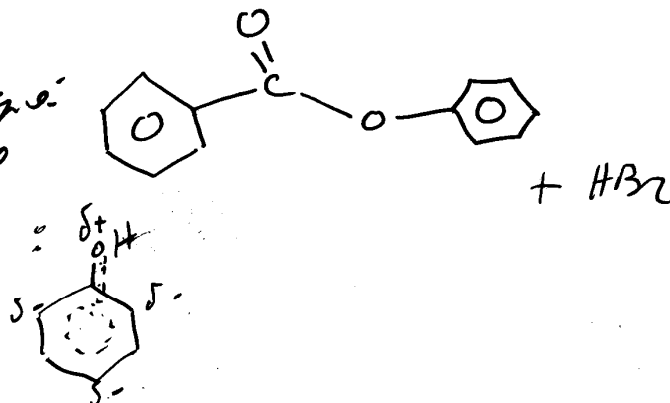
4.



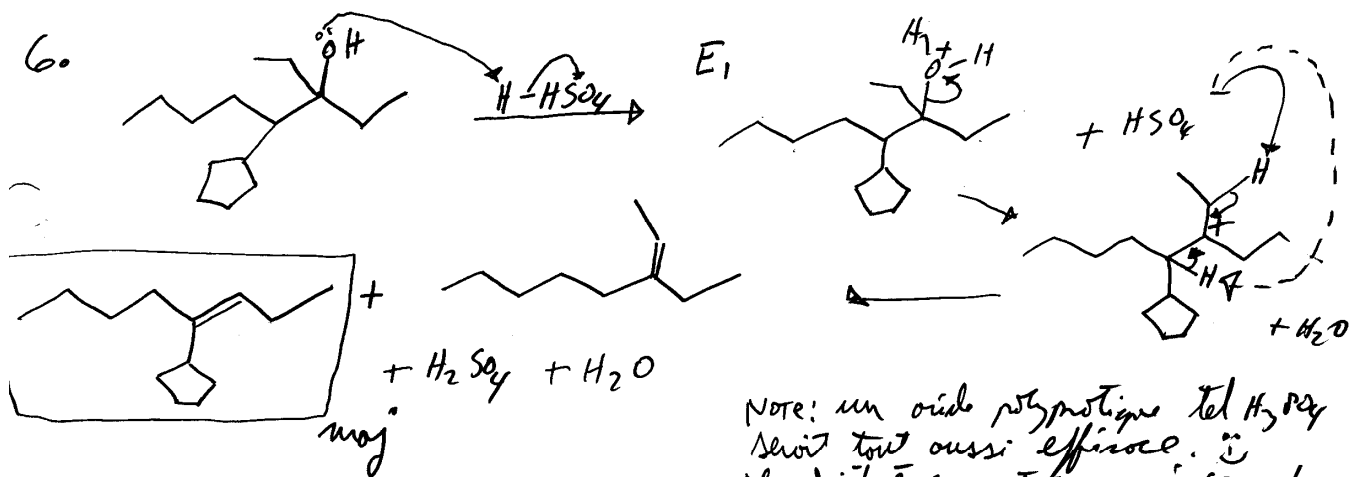
5.



NOTE: la r'm est peu probable telb qu'indique car le doublet du phénol est très peu disponible. Il est plus nucléophile.

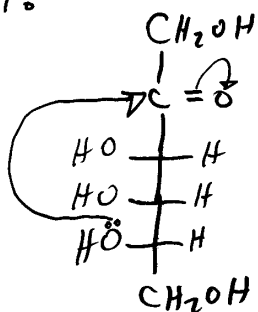


l'ion phénolate aurait été beaucoup plus logico pour la r'm.

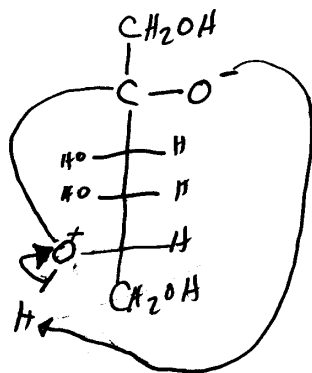


NOTE: un acide rétrosynthique tel H_2SO_4 serait tout aussi efficace. Il doit être commenté pour éviter la formation d'addition de l'eau sur l'alcène formé.

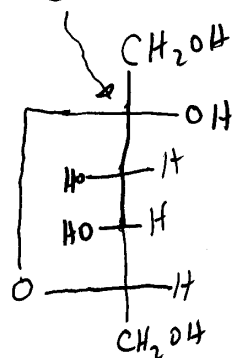
7.



L-PSICOSE
un L-cetohexose



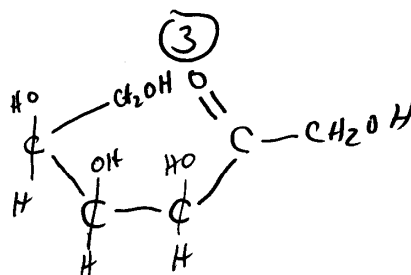
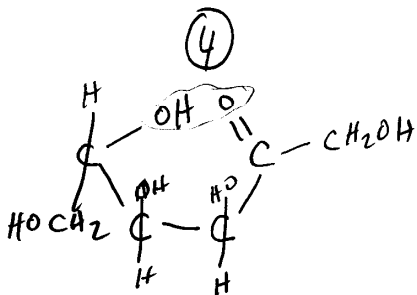
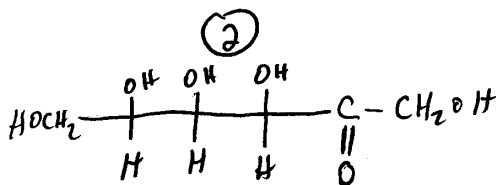
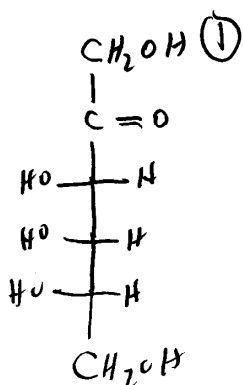
Composé



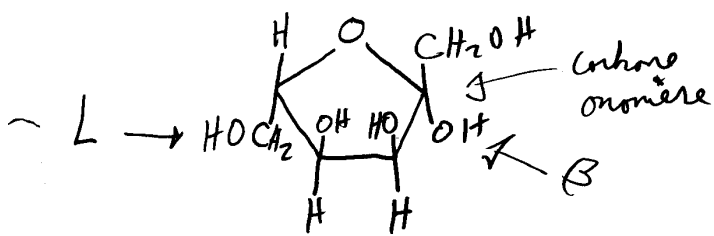
mécanisme d'addition
d'un alcool à un
carbonyle

→ formation d'un hémiacétal

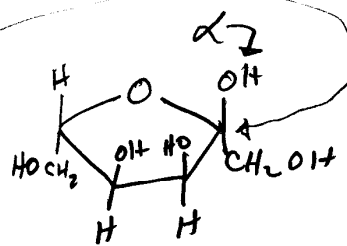
Cycle à 5 membres
incluant l'oxygène...
c'est furonose



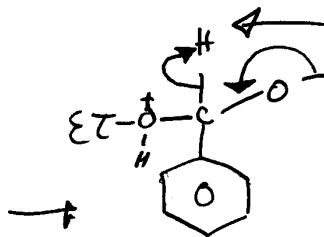
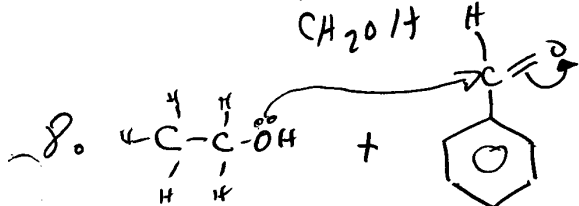
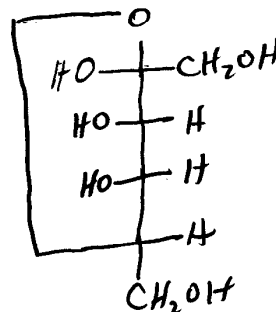
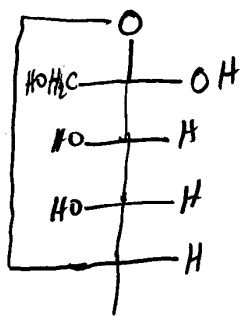
suite #7



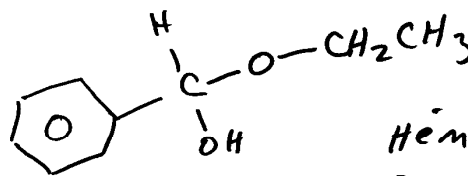
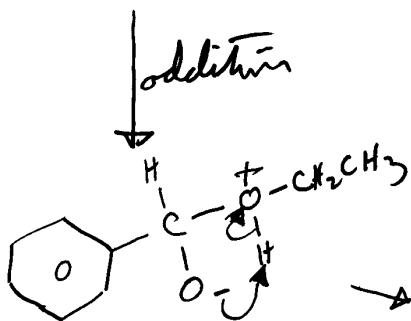
(β)-(L)-PSICOFURANOSE



(α)-(L)-PSICOFURANOSE



H⁻ : peu
plusieurs O^-
doz nos de SN
sur carbonyl C



HÉMIACÉTAL
Comme chez les
GLUCIDES.